



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/586,550

07/19/2006

Masayuki Saito

TAN-127

6235

54630 7590 02/03/2009

ROBERTS & ROBERTS, LLP  
ATTORNEYS AT LAW  
P.O. BOX 484  
PRINCETON, NJ 08542-0484

EXAMINER

HAILEY, PATRICIA L

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

02/03/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,550	<b>Applicant(s)</b> SAITO, MASAYUKI	
	<b>Examiner</b> PATRICIA L. HAILEY	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 7-20 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1793

Applicant's remarks and amendments, filed on November 13, 2008, have been carefully considered. Claims 5 and 6 have been canceled; no new claims have been added.

Claims 1-4 and 7-20 remain pending in this application.

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Withdrawn Rejections***

The 103(a) rejection of claims 1-20 as being unpatentable over Kato et al. (U. S. Patent No. 4,537,873, Applicant's submitted art), stated in the previous Office Action, has been withdrawn in view of Applicants' persuasive arguments traversing this rejection.

### ***New Ground of Rejection***

The following New Ground of rejection is being made in view of the Examiner's reconsideration of the reference to Hirata et al. (U. S. Patent No. 6,440,378, submitted by Applicant in an Information Disclosure Statement filed on September 3, 2008.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**3. *Claims 1, 3, 4, 7-14, 16, 17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirata et al. (U. S. Patent No. 6,440,378).***

Hirata et al. teach a process for producing a catalyst, in which a plurality of water-soluble noble metal compounds and alcohol (“solvent”) are mixed in an aqueous solution of a water-soluble high polymer such as polyvinyl pyrrolidone, polyvinyl alcohol, and heated, thereby forming a polymer-protected noble metal composite colloid. Then, porous support powder formed of such an oxide as alumina is dispersed in the aqueous solution of the polymer-protected noble metal composite colloid (“soluble in water”; **claims 3 and 19**), and then dried and calcined (**claims 4, 14, 16, 17, and 20**). See col. 8, lines 9-22 of Hirata et al.

The particle size of the noble metal composite colloid preferably ranges from 1 to 5 nm; in this range, the number of constituent atoms ranges from 10 to 3000. See col. 6, lines 7-12 of Hirata et al.

Exemplary noble metals in the noble metal composite colloid include iridium, silver, platinum, rhodium, and palladium; two or more kinds of these metals can be selected for use (**claim 7**). See col. 6, lines 23-37 of Hirata et al.

Examples of the porous oxide support include alumina, silica, titania, zirconia, silica-alumina, and zeolite (**claims 1, 8, and 9**). See col. 6, lines 61-63 of Hirata et al.

At col. 6, line 64 to col. 7, line 5, Hirata et al. disclose the addition of an NO<sub>x</sub> storage component, said addition comprising at least one element selected from alkali metals, alkaline earth metals, and rare earth metals. Exemplary elements include lithium, sodium, potassium, cesium, magnesium, calcium, strontium, barium, lanthanum, cerium, and praseodymium (**claims 10-13**).

In view of these teachings, Hirata et al. anticipate claims 1, 3, 4, 7-14, 16, 17, 19, and 20.

#### ***Claim Rejections - 35 USC § 103***

***4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over in view Hirata et al. (U. S. Patent No. 6,440,378) in view of Kato et al. (U. S. Patent No. 4,537,873).***

Hirata et al. is relied upon for its teachings in the above 102(b) rejection. Although this reference teaches the limitations of claims 16 and 17 regarding the “organic matter” (i.e., polyvinyl alcohol and polyvinyl pyrrolidone), Hirata et al. do not teach or suggest the employment of polyamino acid or polysaccharide, as recited in claim 18.

Kato et al. teach the preparation of a catalyst, wherein colloidal precious metal particles are prepared by dissolving a high polymer in an aqueous solution containing precious metal ions. Examples of the high polymer include poly(vinyl alcohol),

Art Unit: 1793

poly(vinyl pyrrolidone), and gelatin (a polyamino acid). See col. 5, lines 13-17 of Kato et al.

Given the showing by Kato et al. that poly(vinyl alcohol), poly(vinyl pyrrolidone), and gelatin (a polyamino acid) are functional equivalents as high polymers in the art of preparing catalysts, it would have been obvious to the skilled artisan to substitute gelatin (a polyamino acid) for either polyvinyl alcohol or polyvinylpyrrolidone.

### ***Allowable Subject Matter***

5. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The cited references of record do not teach or suggest the claimed step of reducing the composite complex before or after the step of calcining the carrier.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/  
Examiner, Art Unit 1793  
February 2, 2009